Lab Assignment -4.1

TASK -1:

Use zero-shot prompting to instruct an AI tool to generate a function that validates an Indian mobile number.

Requirements

* The function must ensure the mobile number:
  + Starts with 6, 7, 8, or 9
  + Contains exactly 10 digits

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AI-generated content may be incorrect.

Observation:

The ai does the gave the correct output based on the requirments with out mentioning them

Task-2:

Use one-shot prompting to generate a Python function that calculates the factorial of a number.

Requirements

* Provide one sample input-output pair in the prompt to guide the AI.
* The function should handle:
  + 0! correctly
  + Negative input by returning an appropriate message

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Observation:

The A.I gave the proper code to find the factorial of given number without any errors

Task-3:

Objective

Use few-shot prompting (2–3 examples) to instruct the AI to create a function that parses a nested dictionary representing student information.

Requirements

* The function should extract and return:
  + Full Name
  + Branch
  + SGPA

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Observation

Using 2–3 examples, a function was created to extract Full Name, Branch, and SGPA from nested student dictionaries. The function worked across multiple student datasets.

Task-4:

Objective

Experiment with zero-shot, one-shot, and few-shot prompting to generate functions for CSV file analysis.

Requirements

* Each generated function should:
  + Read a .csv file
  + Return the total number of rows
  + Count the number of empty rows
  + A screenshot of a computer program

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*Observation:* Functions were made to read and analyze CSV files. All methods worked.

Task #5

Use few-shot prompting (with at least 3 examples) to generate a Python function that processes text and analyzes word frequency.

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*Observation:* a function was built to process a paragraph by converting text to lowercase, removing punctuation, and returning the most frequent word. Tests confirmed correct outputs for multiple sample paragraphs.